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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,891	09/30/2003	Xiao-Fan Feng	KLR7146.0200	8087
52894	7590	03/08/2007	EXAMINER	
KRIEGER INTELLECTUAL PROPERTY, INC. P.O. BOX 1073 CAMS, WA 98607			AMINI, JAVID A	
			ART UNIT	PAPER NUMBER
			2628	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/08/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/676,891	FENG ET AL.
<b>Examiner</b>	<b>Art Unit</b>	
Javid A. Amini	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 19 February 2004.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) \_\_\_\_\_ is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-19 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/30/03.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_.

***Double Patenting***

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

The independent claims 1, 4-13, 18 and 19 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of independent claims 1, 5, 14, 21 and 22 of copending Application No. 10/645,952. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Re. claim 1 in the current application vs claim 1 in the copending application: The preambles are similar, the next step of claim 1 "assigning" is similar to what the step "b" in copending application recited. The scope of claim 1 in the copending application teaches all the limitations (see comparison table, steps A, B and C) of the claimed invention's A, and C. The copending application's claim teaches additionally step B. The current invention is broader than the copending application claim limitations, and does not teach what the copending application teaches such as "an initial reference frameset (IRF), wherein said IRF comprises an initial pixel pattern".

The claimed invention would have been obvious over the copending application because the copending application's claim contained a detailed enabling methodology that suggests a

person skilled in the art to modify the copending application to produce the claimed invention broader.

Re. claims 4, 13, 18, and 19 of the current invention, with respect to the claims 5, 14, 21, and 22 in the copending application, respectively, are rejected with the same rational as in the rejection in of claim 1, because the copending application's claim contained a detailed enabling methodology, a suggestion to modify the copending application to produce the claimed invention, in order to improve a dither pattern for a multiple image description channel image.

Re. Claims 5-12 of the current invention, with respect to the claims 6-13 in the copending application, respectively, are rejected with the same rational as the rejection of claim 1, the limitations are similar to each other, and the comparison table does not show these claims.

#	Current Application	#	Copending Application
1	A method for creating a dither pattern array, said method comprising:  C a. assigning a value to pixels in the pattern such that subsequent pixel values are placed at a location that is dispersed from previously-placed pixel values that are located in other color channels and other temporal frames.	1	A method for creating a dither pattern, said method comprising:  B a. establishing an initial reference frameset (IRF), wherein said IRF comprises an initial pixel pattern;  C b. creating a dither pattern by orienting pixel values in said pattern by a method wherein pixel values are placed in a position that is dispersed from position of pixel values in said initial pixel pattern and the position of pixel values in said dither pattern.
4	Claim 4.	5	Claim 5.

A	A method for creating a dither pattern for a multiple image description channel image, said method comprising:	A	A method for creating a dither pattern for a multiple image description channel image, said method comprising:
B	assigning a value to pixels in a plurality of dither pattern tiles, each of said tiles being allocated to an image description channel, wherein said assigning is performed using cross-channel influence, such that subsequently-assigned pixel values are placed at a location that is related to the location of previously-assigned pixel values in the same image description channel and related to the location of previously-assigned pixel values in other image description channels.	B	designating pixel values in a plurality of dither pattern tiles, each of said tiles being allocated to an image description channel, wherein said designating is performed using cross-channel feedback, such that subsequently-designated pixel values are placed at a location that is related to the location of previously-designated pixel values in the same image description channel and related to the location of previously-designated pixel values in other image description channels.
13	Claim 13.	14	Claim 14.
A	A method for creating a spatio-temporal array of dither patterns, said method comprising:	A	A method for creating a spatio-temporal array of dither patterns, said method comprising:
B	a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and	B	a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and
C	b. designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile, previously designated pixel values in dither pattern tiles in other color channels and dither pattern tiles in other temporal frames.	C	b. designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and dither pattern tiles in other color channels.
18	Claim 18.	21	Claim 21.

	<p>A A system for creating a spatio-temporal array of dither patterns, said method comprising:</p> <p>B a. a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and</p> <p>C b. a designator for designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and dither pattern tiles in other color channels.</p>		
19	<p>Claim 19.</p> <p>A A set of executable instructions for creating a spatio-temporal array of dither patterns, said method comprising:</p> <p>B a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and</p> <p>C b. designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and dither pattern tiles in other color channels.</p>	22	<p>Claim 22.</p> <p>A A set of executable instructions for creating a spatio-temporal array of dither patterns, said method comprising:</p> <p>B a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and</p> <p>C b. designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and dither pattern tiles in other color channels.</p>

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-19 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Examiner does not find any type of transformation or reduction as a final matter and therefore, the claims are non-statutory.

Claim 1: The claimed invention does not “transform” an article or physical object to a different state. Examiner’s interpretation: claim 1 recites a method for creating a dither array, then assigns a value to pixels, and nowhere in the claimed invention transforms the value of the pixels to a different values.

Claims 4, 13, and 17: the same rational basis as claim 1.

Claims 18 and 19 recited, respectively, “A system” and “A set of executable instruction”, and the body of the claims cover just the methods.

The claimed invention is directed to nothing more than abstract ideas or natural phenomena and therefore are non-statutory. The claims do not provide a practical application that produces a useful, tangible and concrete result.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15, and 18-19 rejected under 35 U.S.C. 103(a) as being unpatentable over John Winder et al. Pub. No.: 2004/0252759 A1, hereinafter refers as “Winder”, and in view of Panagiotis Takis Metaxas with title of “Parallel digital halftoning by error-diffusion”, hereinafter refer as “Metaxas”.

1. Claim 1:

Winder at paragraphs [0009-0010] teaches a method for creating a dither pattern (or noise, see page 2 line 18 of the specification) array, Examiner’s interpretation: a dither pattern array may be similar to a frame(s), see in fig. 4 of the specification, or as Winder discloses, “generating a tool such as a frame synthesizer” said method comprising: assigning a value to pixels (Winder at paragraph [0010] teaches a tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame) in the pattern such that subsequent pixel values are placed at a location (Winder at paragraph [0048] teaches) that is dispersed from previously-placed pixel values, that are located in (Winder at paragraph [0097] teaches chrominance channels) other color channels and other temporal frames.

Winder does not explicitly specify assigning a value to pixels; however, Metaxas on page 37 under section 1.2 teaches all the pixel values in fig. 6 defined by an expression shown under section 1.2.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Metaxas into the system of Winder in order to enable the user to obtain the desired visibility by reducing the noise/artifacts onto a larger area, and therefore improve the efficiency of the device.

2. Claim 2.

Winder at paragraph [0097] teaches chrominance channels that disperses from pixel values in said other color channels is weighted differently from dispersion from said pixel values in said other temporal frames. Winder discloses at paragraph [0010] that the tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame.

3. Claim 3.

Winder at paragraph [0010] teaches the dispersion from pixel values in other color channels is weighted such that dispersion from pixel values in a first color channel is weighted differently from dispersion from pixel values in a second color channel. Winder discloses: the tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame.

4. Claim 4.

Winder at paragraphs [0009-0010] teaches a method for creating a dither pattern for (Winder at paragraph [0005] teaches artifacts/noise are an unintended result of blending two

images, i.e. a multiple image description channel image, said method comprising: assigning a value to pixels in a plurality of dither pattern tiles (Examiner's interpretation: tiles is equivalent of frames, see in fig. 3), (Winder at paragraph [0010] teaches a tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame), each of said tiles being allocated to an image description channel, wherein said assigning is performed using cross-channel influence, (Winder at paragraph [0048] teaches such that subsequently-assigned pixel values are placed at a location that is related to the location of previously-assigned pixel values in the same image description channel (Winder at paragraph [0097] teaches chrominance channels) and related to the location of previously-assigned pixel values in other image description channels.

Winder does not explicitly specify assigning a value to pixels; however, Metaxas on page 37 under section 1.2 teaches all the pixel values in fig. 6 defined by an expression shown under section 1.2.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Metaxas into the system of Winder in order to enable the user to obtain the desired visibility by reducing the noise/artifacts onto a larger area, and therefore improve the efficiency of the device.

##### 5. Claim 5.

A method according to claim 4 wherein said "related to the location" comprises dispersion from the location. Winder discloses at paragraph [0010] that the tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame.

6. Claim 6.

A method according to claim 4 wherein said "related to the location" comprises dispersion from the location using a combined repellent function comprising, Winder in fig. 8b steps 844 and 846 teaches a spatial/temporal function and a (Winder in fig. 5 illustrates it in Y-axis) cross-color-channel function.

7. Claim 7.

A method according to claim 4 wherein said relation to the location of previously-designated pixels is channel specific such that pixel values in one color channel will disperse differently than pixel values in another channel. Winder at paragraph [0048] teaches, "Forward-warped past frame and a backward-warped future frame" i.e. similar to what the claim language recited as "previously-designated pixels is channel and pixel values in another channel".

8. Claim 8.

The rejection of claim 7 applies to the rejection of claim 8, the relation to the location of previously-designated pixels is channel specific such that pixel values in color channels other than the channel of the pixel being designated will disperse differently than pixel values in the same channel.

9. Claim 9.

Winder at paragraph [0097] teaches a method wherein said image description channels are color channels.

10. Claim 10.

Winder does not explicitly specify the image description channels comprise three (Winder at paragraph [0097] teaches luminance (Examiner's interpretation: combination of Red,

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Blue and Green colors) channel) channels for each of a red, green and blue color. However,

Metaxas on page 36 at left column second paragraph teaches the introduction of color is handled through four superimposed halftones, cyan (Examiner's interpretation: is equivalent to blue-green color), yellow, magenta (Examiner's interpretation: is equivalent to red-blue color) and black.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Metaxas into the system of Winder in order to enable the user to obtain the desired visibility by reducing the noise/artifacts onto a larger area, and therefore improve the efficiency of the device.

11. Claims 11 and 12.

Winder does not explicitly specify the pixel values in said channels are assigned in a sequence one channel at a time with cross-channel influence being used to assign pixel locations after a first channel is designated, however, Metaxas on page 38 under subsection 2.1 teaches that whenever two pixels have equal scheduling times they can be processed simultaneously. Then if two pixels have unequal scheduling times they can be processed in a sequence.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Metaxas into the system of Winder in order to enable the user to obtain the desired visibility by reducing the noise/artifacts onto a larger area, and therefore improve the efficiency of the device.

12. Claim 13.

Winder at paragraphs [0009-0010] teaches a method for creating a spatio-temporal array of dither patterns, said method comprising: Winder at paragraph [0010] teaches establishing a

spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and designating pixel values (Winder at [0010] teaches a tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame) in said dither pattern tiles wherein (Winder at paragraph [0035] teaches at any arbitrary time-stamp) subsequently-designated pixel values are spatially dispersed (Winder at paragraph [0048] teaches) from previously-designated pixel values in the same dither pattern tile, previously designated pixel values in dither pattern tiles in (Winder at paragraph [0097] teaches chrominance channels) other color channels and dither pattern tiles in (Winder in fig. 11b illustrates) other temporal frames.

Winder does not explicitly specify designating pixel values; however, Metaxas on page 37 under section 1.2 teaches all the pixel values in fig. 6 defined by an expression shown under section 1.2.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Metaxas into the system of Winder in order to enable the user to obtain the desired visibility by reducing the noise/artifacts onto a larger area, and therefore improve the efficiency of the device.

13. Claim 14.

Winder at paragraph [0178] chooses a threshold to determine the dispersion from pixel values in other temporal frames is weighted wherein temporal frames more temporally distant from a pixel value have a lower dispersion than closer temporal frames.

14. Claim 15.

Winder at paragraph [0178] chooses a threshold to determine the dispersion from pixel values in other color channels is weighted wherein other color channels have a lower dispersion than the color channel in which a pixel value is designated.

15. Claim 18.

Winder at paragraphs [0009-0010] teaches a system or (Examiner's interpretation: a method) for creating a spatio-temporal array of dither patterns, said method comprising: Winder at paragraph [0010] teaches a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and a designator for designating pixel values (Winder at paragraph [0010] teaches a tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame) in said dither pattern tiles wherein (Winder at paragraph [0035] teaches at any arbitrary time-stamp) subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and (Winder in fig. 11b illustrates) dither pattern tiles in other (Winder at paragraph [0097] teaches chrominance channels) color channels.

Winder does not explicitly specify a designator for designating pixel values; however, Metaxas on page 37 under section 1.2 teaches all the pixel values in fig. 6 defined by an expression shown under section 1.2.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Metaxas into the system of Winder in order to enable the user to obtain the desired visibility by reducing the noise/artifacts onto a larger area, and therefore improve the efficiency of the device.

16. Claim 19.

Winder at paragraphs [0009-0010] teaches a set of executable instructions or (Examiner's interpretation: a method) for creating a spatio-temporal array of dither patterns, said method comprising: Winder at paragraph [0010] teaches establishing a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and designating pixel values (Winder at paragraph [0010] teaches a tool measures the difference between two pixel values from different frames, which are to be combined for a pixel in a synthesized output frame) in said dither pattern tiles wherein (Winder at paragraph [0035] teaches at any arbitrary time-stamp) subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and (Winder in fig. 11b illustrates) dither pattern tiles in (Winder at paragraph [0097] teaches chrominance channels) other color channels.

Winder does not explicitly specify designating pixel values; however, Metaxas on page 37 under section 1.2 teaches all the pixel values in fig. 6 defined by an expression shown under section 1.2.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Metaxas into the system of Winder in order to enable the user to obtain the desired visibility by reducing the noise/artifacts onto a larger area, and therefore improve the efficiency of the device.

***Information Disclosure Statement***

The information disclosure statement filed on 9/30/2003 does not fully comply with the requirements of 37 CFR 1.98 because: the following steps needs to be corrected:

- 37 CFR 1.98(a)(1)(i) requires each page of the list must include: The application number of the application in which the information disclosure statement is being submitted. Pages 1 and 2 do not have the requirement.
- 37 CFR 1.98(a)(1)(iii) A heading that clearly indicates that the list is an information disclosure statement, see page 2 of 3.
- 37 CFR 1.98(b)(1) requires U.S. patent listed in the information disclosure statement identified by inventor, and issue date. None of the Patent listed on pages 1 and 2 identified the name and date.
- Also a page is missing from form PTO-1449 (i.e. page 3 of 3).

The information disclosure statement **not** being considered. See 37 CFR 1.97(i).

***Conclusion***

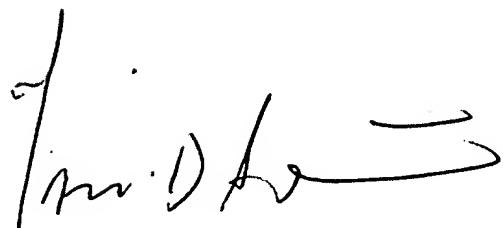
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Javid A Amini  
Examiner  
Art Unit 2628

J.A.

A handwritten signature in black ink, appearing to read "Javid A. Amini".